

REMARKS

The Examiner is thanked for her careful and very thorough Office Action.

Claims 1-5 and 10-13 are allowed. Claims 6-9 and 14-18 have been rejected.

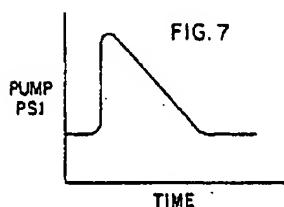
Art Rejections

The art rejections are all respectfully traversed.

Rejection Under 35 USC 102(b)

Claims 6-9 stand rejected under 35 USC Section 102(b) as anticipated by *Daly et al.*

The Examiner has suggested that *Daly et al.* indicates bit failure by reducing mud flow impedance. However, to the contrary, *Daly et al.* increases mud flow impedance by increasing the drilling fluid pressure from one state to another. The passage of *Daly et al.* cited by the Examiner states, “*This engagement blocks flow of drilling fluid through the nozzle and thus the drilling fluid in the chamber 43 may exit the bit body only via the remaining nozzles, thereby increasing its pressure and decreasing its flow rate.*”¹ This increase in drilling fluid pressure is depicted in Figure 7 of *Daly et al.*:



¹ Col. 8, ll. 24-28.

In contrast, the present invention drops the static drilling fluid pressure from one state to another. As stated in the present application, **"If a failure is detected a port is opened which causes a drop in the surface pump pressure."**² This decrease in drilling fluid pressure is depicted in Figure 48 of the present application:

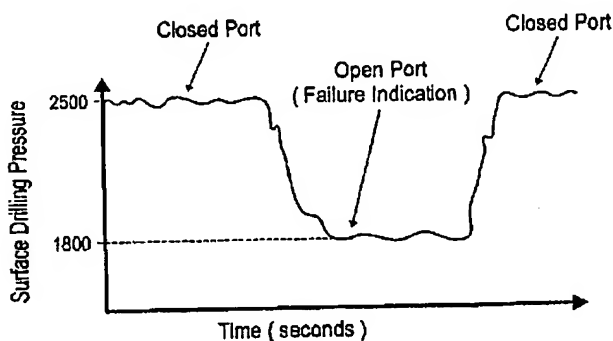


Fig.4 8

According to the Federal Circuit:

For a prior art reference to anticipate a claim, the reference must disclose each and every element of the claim with sufficient clarity to prove its existence in the prior art.³

The claim language of Claim 6 is not met. Specifically, Claim 6 recites **"irreversible movement of a valve which affects mud flow impedance from a first state which is initially present during normal drilling irreversibly into at**

² Paragraph [0173]

³ Motorola, Inc., v. Interdigital Tech. Corp., 43 USPQ 2d 1481, 1490 (Fed. Cir. 1997).

least one intermediate state having REDUCED mud flow impedance which indicates a failure condition.” As stated above, *Daly et al.* does not disclose or suggest indicating bit failure by reducing the mud flow impedance or static fluid pressure.

Therefore, a prima facie case of anticipation has not been established by the Examiner. Accordingly, Applicants respectfully request withdrawal of this rejection.

Finally, dependent Claims 7-9, which depend directly from independent Claim 6 and incorporate all the limitations thereof, also include additional limitations that are not shown or suggested by *Daly et al.* For example, dependent Claim 8 recites **“valve movement occurs at a time constant of at least about one second.”** The Examiner has suggested that the movement of valve 99 of *Daly et al.* is capable of occurring at a time constant of at least about one second. However, Applicants are unable to find such a teaching in *Daly et al.* The Examiner is respectfully requested to point out very specifically where such a teaching may be found in *Daly et al.*

Thus, for these reasons, and for the reasons discussed above, Applicants respectfully request withdrawal of this rejection.

Rejections Under 35 USC 103(a)

Claims 14-17 stand rejected under 35 USC Section 103(a) as being unpatentable over *Carmody et al.*

Carmody et al. relates to the dynamic regulation of the flow of a given fluid in a particular zone. *Carmody et al.* does not disclose or suggest sensing changes in the downhole equipment or reducing the static drilling fluid pressure to indicate changes in the downhole equipment.

The claim language of Claim 14 is not met. Specifically, Claim 14 recites **“using downhole circuitry to signal a change in downhole equipment condition by causing a reduction**

in drilling fluid static pressure.” *Carmody et al.* does not disclose or suggest such a step. The Examiner has suggested that *Carmody et al.* uses downhole circuitry to signal a change in downhole equipment conditions by causing a reduction in drilling fluid static pressure. However, the downhole circuitry disclosed by *Carmody et al.* does not sense changes in downhole equipment CONDITION. Rather *Carmody et al.* uses “*position sensors to provide accurate information about the position of the closing sleeve...*”⁴ Therefore, in accordance with its objective of regulating fluid flow, *Carmody et al.* teaches the use of sensors to indicate the position of the closing sleeve. There does not appear to be any suggestion that *Carmody*’s sensors should sense changes in the downhole equipment condition.

Also, while *Carmody et al.* does teach a regulated fluid flow, it does appear to suggest signalling by “causing a reduction in drilling fluid STATIC pressure.” Neither dynamic modulation of flow nor regulation of flow necessarily implies inducing a change in static pressure.

The Examiner has suggested that it would have been obvious to modify *Carmody et al.* to use downhole circuitry to signal a change in downhole equipment conditions. However, **“In order to render a claimed apparatus or method obvious, the prior art must enable one skilled in the art to make and use the apparatus or method.”**⁵ Even if one were to assume motivation, modifying *Carmody et al.* as suggested by the Examiner still would not be enabling for the inventions disclosed by the present application. As stated earlier, *Carmody et al.* does not appear to disclose or suggest reducing static fluid pressure to indicate changes in downhole equipment conditions. Therefore, adding such circuitry to *Carmody et al.* would not enable the present inventions.

Furthermore, even if all of the claimed elements were present in one or another of the references – which Applicants strongly dispute – the Examiner

⁴ Col. 2, ll. 6-8.

⁵ *Motorola, Inc., v. Interdigital Tech. Corp.*, 43 USPQ 2d 1481, 1489 (Fed. Cir. 1997) (quoting *Beckman Instruments, Inc. v. LKB Produkter AB*, 13 USPQ 2d 1301, 1304 (Fed. Cir. 1989)).

has not established a motive to combine the cited references. The first requirement is that a showing of a suggestion, teaching, or motivation to combine the prior art references is an **"essential evidentiary component of an obviousness holding."**⁶

According to the Federal Circuit:

Determination of obviousness can not be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. There must be a teaching or suggestion within the prior, or within the general knowledge of a person of ordinary in the field of the invention, to look to particular sources of information, to select particular elements, and to combine them in a way they were combined by the inventor.⁷

Therefore, a prima facie case of obviousness has not been established by the Examiner. Thus, for the reasons discussed above, Applicants respectfully request withdrawal of this rejection.

Finally, dependent Claims 15-17 depend directly from independent Claim 14 and incorporate all the limitations thereof.

Thus, for this reason, and for the reasons discussed above, Applicants respectfully request withdrawal of this rejection.

⁶ Brown & Williamson Tobacco Corp. v. Phillip Morris Inc., 56 USPQ 2d 1456, 1459 (Fed. Cir. 2000) (quoting C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3d 1340, 1352, 48 USPQ 2d 1225, 1232 (Fed. Cir. 1998)).

⁷ ATD Corporation v. Lydall, Inc., 48 USPQ 2d 1321, 1329 (Fed. Cir. 1998).

Claim 18 stands rejected under 35 USC Section 103(a) as being unpatentable over *Charmody et al.* in view of *Esfahani et al.*

Dependent Claim 18 depends directly from independent Claim 14 and incorporates all the limitations thereof. As stated earlier, *Charmody et al.* does not disclose or suggest sensing changes in the downhole equipment conditions and reducing static fluid pressure to indicate such changes. Therefore, even if one were motivated to combine *Charmody et al.* with *Esfahani et al.*, it still would not be enabling of the disclosed inventions.

Thus, for this reason, and for the reasons discussed above, Applicants respectfully request withdrawal of this rejection.

Conclusion

As all grounds of rejection and/or objection are traversed or accommodated, entry of the above amendment is respectfully requested. The Examiner is requested to telephone the undersigned attorney or Robert Groover for an interview to resolve any remaining issues.

Respectfully submitted,



N. Elizabeth Pham, Reg.No. 49,042

Customer Number 29106

Attorney for Applicant

11330 Valley Dale Drive, Dallas TX 75230

214-363-3038

groover@technopatents.com

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